

FRANKLIN ENGINE COMPANY

MODELS: Aircooled Motors Franklin 4AC-199 series

T.C. NUMBER: T.C. 226

Model - Franklin	4AC-199B2, B3	4AC-199D2, D3	4AC-199E2, E3, E4 (O-200-1)	4AC3-199H3 (O-200-5)
Type	4HOA Direct drive	-----	-----	-----
Rating:				
Maximum continuous, hp, rpm, at S.L. press. alt.	65-1950-S.L.	85-2500-S.L.	90-2500-S.L.	113-3500-S.L.
Take-off, hp, rpm, full throttle	65-1950	85-2500	90-2500	113-3500
Fuel (minimum octane aviation gasoline)	73	-----	80	-----
Bore and stroke, in.	4.25 x 3.50	-----	-----	-----
Displacement, cu. in.	199	-----	-----	-----
Compression ratio	6.0: 1	6.3: 1	7.0: 1	-----
C.G. location (with all accessories) Forward of rear mount C.L., in.	5.7; 3.7	-----	5.7; 3.7; 2.7	4.6
Weight (dry), lbs.	190; 197	190; 197	190; 197; 202	224
Propeller shaft	Integral flanged hub 6-3/8 in. bolts, 4 in. circle	-----	-----	SAE No. 10
Carburetion	Marvel MA-3P carburetor with 1-5/16 in. venturi	Marvel MA-3 or MA-3A carburetor with 1-3/8 in. venturi	-----	Marvel MA-3SPA carburetor with 1-5/8 in. venturi
Ignition, dual	Eisemann A M-4 (unshielded) or LA-4 (shielded) magnetos with impulse coupling (retard 25 degrees)	-----	-----	-----
Ignition timing, deg. BTC	26	30	26 or 28	32
Spark plugs	Champion AJ-66 , C-10-S, 78S; Simmonds- Benton 4D3-S; AC-SA-47, Auto-Lite A5-B or A4-S	-----	-----	-----
Oil sump capacity, quarts	5	-----	-----	-----
Certification basis	Type Certificate No. 226 (See NOTE 4)			

NOTE 1. Maximum permissible cylinder head, cylinder barrel and oil inlet temperatures 550 degrees F., 330 degrees F., and 240 degrees F., respectively, for all models except the 4ACG-199H Series whose limits are 500 degrees F., 300 degrees F., and 213 degrees F., respectively.

NOTE 2. The following accessories are eligible for use on the specified engine models at the indicated additional weights:

<u>Accessory</u>	<u>Weight (lbs.)</u>
<u>Generator</u>	
Auto-Lite GDY or GAS (6 or 12 volts - Models B3, D3, E3, H3 only)	12
Auto-Lite No. 10621 or 11496 and 10622 or 11497 (both used - Model E4 only)	26
<u>Starter</u>	
Auto-Lite MBG or MZ (models B3, D3, E3, E4, H3 only)	16
Delco-Remy No. 10750 (Model E4 only)	16
<u>Fuel Pump</u>	
AC No. 10551	3
<u>Hydraulic Pump</u>	
Pesco 194-C (Model E4 only)	3
<u>Vacuum Pump</u>	
Pesco 194-C (Model E4 only)	4
<u>Miscellaneous</u>	
8 quart finned oil sump (included in weight of H3)	2
Fram P-1/2 or PB-1/2 oil filter	--
AC Air cleaner Part No. 1529 265 (for all except engine Model H3)	--

The following accessory drives are provided.

Accessory	Nearest AN Pad Designation	Direction of Rotation, C = Clockwise CC = Counter- clockwise	Drive Speed X Crankshaft RPM	Maximum Torque (in. - lbs.)		Maximum Overhang Moment (in. - lbs.)
				Continuous	Static	
Starter	None	CC	11.444: 1	--	240	30
*Generator	None	CC	1.000: 1	8	15	45
**Generator	None	CC	1.080: 1	8	15	45
Tachometer	AND 10005	CC	0.500: 1	20	60	2
Hydraulic or vacuum pump	AND 10000	C	1.000: 1	75	300	25

*All except 4AC-199-E4

**4AC-199-E4 only

NOTE 3. The corresponding model designations of military models installed in certified aircraft must be incorporated on the engine nameplate at least by the first overhaul period.

NOTE 4. Approval for all models expired 11/5/50. No engine of these models manufactured after the date shown below or with serial numbers above those listed are eligible for use in certificated aircraft.

<u>Model</u>	<u>Date</u>	<u>Serial No.</u>	<u>Model</u>	<u>Date</u>	<u>Serial No.</u>
4AC-199-B2, B3	1/6/42	200838	4AC-199-E3	5/9/46	201583
4AC-199-D2	5/11/42	200858	4AC-199-E4	11/18/42	201092
4AC-199-D3	9/27/44	201591	4ACG-199-H3	7/2/43	201505
4AC-199-E2	11/10/42	201116			